

IN THE CLAIMS

The following listing of the claims is provided for the convenience of the Examiner. No claims are amended, cancelled, or added in this Response.

1. – 7. (Cancelled.)

8. (Previously Presented) A non-metallic inclusion measuring device comprising:
a table on which a metal sample, comprising aluminum having a fracture surface with minute irregularities, is mounted with said fracture surface facing up;
a reflection dome disposed over said table and having a downward concave reflection surface of a semicircular section with an opening in the vicinity of a vertex thereof;
a plurality of light sources which are mounted along an inner edge of said concave reflection surface of said reflection dome so as to emit light toward said reflection dome;
an image sensing means, disposed over said opening of said reflection dome, for sensing an image of the fracture surface irradiated with the light;
a continuous tone color image processing means for processing the sensed image into a continuous tone color image; and
binarizing means for binarizing the continuous tone color image through comparison between a result of the continuous tone color image processing and a threshold value.

9. – 10. (Cancelled.)

11. (Previously Presented) A non-metallic inclusion measuring device according to claim 10, wherein said light sources comprise light-emitting diodes.

12. (Cancelled.)

13. (Previously Presented) A non-metallic inclusion measuring device according to claim 8, further comprising:

high-luminance region detection means for detecting an image region having a higher luminance than the threshold value from the image binarized by said binarizing means; and
pixel count measuring means for measuring a pixel count of the image region detected by said high-luminance region detection means.

14. (Previously Presented) A non-metallic inclusion measuring device according to claim 13, further comprising impurity region recognizing means for recognizing the image region detected by said high-luminance region detection means as an impurity region containing a non-metallic inclusion when the pixel count measured by said pixel count measuring means is larger than a predetermined pixel count, and avoiding recognizing the detected image region as an impurity region when the measured pixel count is smaller than the predetermined pixel count.

15. (Cancelled)

16. (Previously Presented) A non-metallic inclusion measuring device according to claim 8, wherein said image sensing means comprises a CCD camera.

17. (Previously Presented) A non-metallic inclusion measuring device according to claim 8, further comprising a support column standing upward from said table, wherein said reflection dome is mounted vertically movably on said support column.

18. (Previously Presented) A non-metallic inclusion measuring device according to claim 17, wherein said image sensing means is mounted above said reflection dome vertically movably on said support column.

19. (Previously Presented) A non-metallic inclusion measuring device according to claim 11, further comprising a ring member mounted along the inner edge of said concave reflection surface of said reflection dome, wherein said light-emitting diodes are disposed on said ring member.